Societies and Academies.

Sydney.

Linnean Society of New South Wales, October 27.—Mr. J. J. Fletcher, president, in the chair.—E. W. **Ferguson** and G. F. **Hill**: Notes on Australian Tabanidæ. The paper deals mainly with synonymy, the results being given of comparison of specimens with the types of Australian Tabanidæ in the British Museum and in the Australian Institute of Tropical Medicine. Seventeen species belonging to five genera are dealt with, one species being described as new.—Dr. A. J. **Turner**: Studies in Australian Lepidoptera: Liparidæ. In Australia the family Liparidæ is represented by sixty species belonging to eighteen genera, of which two genera and ten species are described as new in this paper.—G. A. **Waterhouse**: Descriptions of new forms of butterflies from the South Pacific. One species from Fiji and six subspecies from Fiji (three), Lord Howe Island (two), and the New Hebrides (one) are described as new.—Eleanor E. **Chase**: A new avian trematode. A species of Holostomum is described as new. The specimens described were obtained from a white-fronted heron, *Notophoyx novae-hollandiae*, at Terrigal, N.S.W.—Dr. J. M. **Petrie**: Cyanogenesis in plants. Part iv.: The hydrocyanic acid of Heterodendron, a fodder-plant of New South Wales. The foliage of *Heterodendron oleaefolia* was much used for cattle-feeding during the drought. Chemical examination of the leaves shows them to contain a cyanogenetic glucoside yielding, when hydrolysed, 0·328 per cent. of hydrocyanic acid. The plant is therefore one of the most poisonous cyanogenetic plants known, yielding more than twice as much hydrocyanic acid as bitter almonds. One ounce of the air-dried leaves forms a lethal amount for one sheep. The leaves are invariably found to be deficient in enzyme, and require the addition of emulsin in the estimation to bring about the complete decomposition of the glucoside.—Vera **Irwin-Smith**: Studies in life-histories of Australian Diptera Brachycera. Part i.: Stratiomyiidæ. No. 1: *Metoponia rubriceps*, Macquart. Very little work has been done in any part of the world on the early stages of the Brachycera; many soil-inhabiting, dipterous larvæ, mostly belonging to the Brachycera, have been collected and reared through to the imago or to the pupal stage. The present paper is the first of a series dealing with this work, and gives a detailed account of the life-history of *Metoponia rubriceps*, Macquart. It is also accompanied by a historical review of published accounts of early stages of the Stratiomyiidæ, a list of the species the earlier stages of which have been observed, and a comprehensive bibliography.

Hobart.

Royal Society of Tasmania, October 11.—Dr. A. H. Clarke in the chair.—L. **Rodway**: Additions to the fungus flora of Tasmania. Several new and interesting species of fungi were described. In his introduction the lecturer pointed out that in any community such as Tasmania, where the future largely depends upon agriculture, the study of botany was essential. It was to be regretted that up to the present this study had been absolutely neglected even at the University. Independent of the injury done by some parasitic fungi to our crops and forests, fungi were of the utmost importance to the well-being of the earth. Their principal work consists of decomposing dead vegetable matter and bringing the soil into a fit state to afford food for plant-life.

Books Received.

Survey of India. Professional Paper, No. 15. The Pendulum Operations in India and Burma, 1908 to 1913. By Capt. H. J. Couchman. Pp. 6+vi+190. (Dehra Dun: Trigonometrical Survey.) 2.8 rupees.

Medical Research Council and Department of Scientific and Industrial Research. Reports of the Industrial Fatigue Research Board. No. 5. Fatigue and Efficiency in the Iron and Steel Industry. (Metal Trades Series, No. 4.) Pp. 99+8 plates. (London: H.M. Stationery Office.) 3*s.* net.

Cocoa. By Edith A. Browne. (Peeps at Industries.) Pp. viii+88. (London: A. and C. Black, Ltd.) 2*s.* 6*d.* net.

Kepler. By W. W. Bryant. (Pioneers of Progress: Men of Science.) Pp. 62. (London: S.P.C.K.; New York: The Macmillan Co.) 2*s.*

John Dalton. By L. J. Neville-Polley. (Pioneers of Progress: Men of Science.) Pp. 63. (London: S.P.C.K.; New York: The Macmillan Co.) 2*s.*

Union of South Africa. Department of Mines and Industries. Geological Survey. The Geology of the Northern Portions of the Districts of Marico and Rustenburg. By H. Kynaston and Dr. W. A. Humphrey. Pp. 38. 2*s.* 6*d.* The Geology of Pondoland and Portions of Alfred and Lower Umzimkulu Counties, Natal. By Dr. A. L. du Toit. Pp. 45. 2*s.* 6*d.* Memoir No. 11. The Limestone Resources of the Union. Vol. ii.: The Limestones of Natal, Cape, and Orange Free State Provinces. By W. Wybergh. Pp. 149. 5*s.* Memoir No. 15. Corundum in the Northern and Eastern Transvaal. By A. L. Hall. Pp. 223+xxiii plates. 7*s.* 6*d.* (Pretoria: Geological Survey.)

South African Mammals. A Short Manual for the Use of Field Naturalists, Sportsmen, and Travellers. By A. Haagner. Pp. xx+248. (London: H. F. and G. Witherby; Cape Town: T. Maskew Miller.) 20*s.* net.

Diary of Societies.

THURSDAY, January 13.

London Mathematical Society (at Royal Astronomical Society), at 5.—A. S. Eddington: Dr. Sheppard's Method of Reduction of Error by Linear Compounding.—W. F. Sheppard: Conjugate Sets of Quantities.—E. A. Milne: A Problem concerning the Maxima of Certain Types of Sums and Integrals.—H. J. Priestley: The Linear Differential Equation of the Second Order.—M. Kössler: The Zeros of Analytic Functions.—A. C. Dixon: The Theory of a Thin Elastic Plate, bounded by Two Circular Arcs, and Clamped.—G. A. Miller: Determination of all the Characteristic Sub-groups of an Abelian Group.

Institution of Electrical Engineers (at Institution of Civil Engineers), at 6.—Sir William Bragg: Electrons (Kelvin Lecture).

Concrete Institute, at 7.30.—H. K. Dyson: Tests on High Tensile Steels.

Oil and Colour Chemists' Association (at 2 Furnival Street), at 7.30.—H. G. Clarke: The Evaluation of White Pigments: with Special Reference to White Antimony Oxide.

Optical Society (at Imperial College of Science). at 7.45.—Prof. W. Salomonson: A New Ophthalmoscope.—H. Dennis Taylor: An Anastigmatic Flat Field Telescope and its Application to Prismatic Binoculars.—Inst.-Comdr. T. Y. Baker: A Note on Multiple Reflection.

Harveian Society of London (at Medical Society of London) (Annual Meeting), at 8.30.—Dr. W. Hill: The Great Advances in the Investigation and Treatment of Diseases of the Œsophagus during the Present Century.

Royal Society of Medicine (Neurology Section), at 8.30.—Informal Meeting for Free Discussion.

FRIDAY, January 14.

Royal Astronomical Society, at 5.—E. E. Barnard: Hind's New Star of 1848 (Nova Ophiuchi No. 2).—W. J. Luyten: Note on the Cluster N.G.C. 6633.—Rev. J. G. Hagen: The Astrophysical Problem of Variable Stars.—C. Easton: The Distance of the Galactic Star-clouds.—J. Hargreaves: Note on the Photography of Meteors.—W. M. Smart and H. E. Green: Photographic Magnitudes and Effective Wave-lengths of Nova Cygni (1920), from Photographs Taken at the Cambridge Observatory.

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Royal Society of Medicine (Clinical Section), at 5.30.

Junior Institution of Engineers (at Caxton Hall), at 8.—B. E. D. Kilburn: The Tides: Their Cause, Effect, and Use (Chairman's Address).

Royal Society of Medicine (Ophthalmology Section), at 8.30.—Dr. R. Pickard: Variations in the Size of the Physiological Cup, and their Relation to Glaucoma.—B. T. Lang: Scotometry.

MONDAY, January 17.

Victoria Institute (at Central Buildings, Westminster), at 4.30.—Bishop E. G. Ingham: Some Reflections on How Empire Came to Us, and Can Alone be Conserved.

Institute of Actuaries, at 5.—G. King: A Short Method of Constructing Select Mortality Tables.

Royal College of Surgeons of England, at 5.—Prof. A. Keith: The Principles of Craniology applied to Clinical and Racial Problems.

Royal Geographical Society (at Lowther Lodge), at 5.—Lt.-Col. E. F. W. Lees: International Aeronautical Maps.

Institution of Electrical Engineers (Informal Meeting) (at Chartered Institute of Patent Agents, Staple Inn Buildings), at 7.—P. Pitt and Others: Discussion on The Mental Equipment of an Engineer.

Aristotelian Society (at the University of London Club, 21 Gower Street), at 8.—Prof. G. Dawes Hicks and Others: Discussion on Space, Time, and Deity.

Royal Institute of British Architects, at 8.—H. C. Bradshaw: The Restoration of Praeneste.

Chemical Industry Club (at 2 Whitehall Court), at 8.—H. E. Coley: Some Chemical and Other Notes on His Tour in Borneo.

Royal Society of Arts, at 8.—A. E. L. Chorlton: Aero Engines (Howard Lectures).

TUESDAY, January 18.

Royal Institution of Great Britain, at 3.—Sir Gerald P. Lenox-Conyngham: The Progress of Geodesy in India.

Royal Statistical Society (at Surveyors' Institution), at 5.15.—A. W. Flux: The Measurement of Price Changes.

Mineralogical Society (at Geological Society), at 5.30.—A. F. Hallimond: The Olivine Group.—W. A. Richardson: A Method of Rock-Analysis Diagrams Based on Statistics.—L. J. Spencer: Identity of Trechmann's "β-tin" with Stannous Sulphide.—Dr. G. F. H. Smith: Linarite, Caledonite, and Associated Minerals from Cumberland.—Dr. G. T. Prior: The Adare and Ensisheim Meteorites.

Institution of Petroleum Technologists (at Royal Society of Arts), at 5.30.—S. H. Garner: The Carbonisation of Lubricating Oils.

Royal Photographic Society of Great Britain, at 7.—Capt. C. W. R. Knight: Falconry.

Illuminating Engineering Society (at Royal Society of Arts), at 8.—J. C. Elvy and Others: Use and Abuse of Light in Studios for Cinema Film Production.

WEDNESDAY, January 19.

Royal College of Surgeons of England, at 5.—Prof. A. Keith: The Principles of Craniology applied to Clinical and Racial Problems.

Geological Society of London, at 5.30.—Dr. L. J. Wills and B. Smith: The Lower Palæozoic Rocks of the Llangollen District, with Especial Reference to the Tectonics.

Royal Society of Arts, at 8.—F. M. Lawson: The Future of Industrial Management.

Entomological Society of London (at 11 Chandos Street, W.1), at 8 (Annual Meeting).

Institute of Chemistry (London Section), at 8.—W. G. Young and Others: Discussion on The Institute of Chemistry: What it Can, Cannot, Should, or Should Not Do.

Royal Meteorological Society (Annual General Meeting) (at Royal Astronomical Society), at 8.—R. H. Hooker: Forecasting the Crops from the Weather (Presidential Address).

Royal Microscopical Society, at 8 (Annual Meeting).

THURSDAY, January 20.

Royal Institution of Great Britain, at 3.—Dr. A. Harden: Biochemistry (Vitamines).

Royal Society, at 4.30.—*Probable Papers.*—Sir Robert Hadfield, Bart., S. R. Williams, and I. S. Bowen: The Magnetic Mechanical Analysis of Manganese Steel.—Dr. W. S. Tucker and E. T. Paris: A Selective Hot Wire Microphone.—E. A. Milne and R. H. Fowler: Siren Harmonics and a Pure Tone Siren.—Prof. L. V. King: The Design of Diaphragms capable of Continuous Tuning.

Linnean Society, at 5.

Royal Aeronautical Society (at Royal Society of Arts), at 5.—Lord Montagu of Beaulieu: The Cost of Air Ton-miles compared with Other Forms of Transport.

Institution of Mining and Metallurgy (at Geological Society), at 5.30.—R. E. Palmer: Some Observations on Mining by the Opencast or Stripping Method.—E. A. Wraight: The Standardisation of Materials Employed in Mining and Milling Plant.—A. M. Pontie: Notes on the High-level Diamond Deposits of Brazil.

Institution of Automobile Engineers (London Graduates' Meeting), at 8.—W. H. Wardall: Cylinder and Piston Wear.

Chemical Society, at 8.—J. V. Backes, R. W. West, and M. A. Whiteley: Quantitative Reduction by Hydriodic Acid of Halogenated Malonyl Derivatives. Part I., The Amides of Sym. Dialkyl and Aryl Substituted Amides of Mono- and Di-bromomalonic Acid.—B. M. Gupta: An Investigation on the Influence of Negative Groups of Different Character on the Reactivity of Hydrogen Atoms Carried by the Same Carbon Atom. Part I.—J. Brönsted: The Influence of Salts upon the Chemical Equilibria in Solution.—H. Hepworth: The Action of the Grignard Reagent on Certain Nitric Esters.—G. T. Morgan and H. D. K. Drew: Researches on Residual Affinity and Co-ordination. Part III., Reactions of Selenium and Tellurium Acetylacetones.—G. T. Morgan and D. C. Vining: Dihydroxynaphthaldehydes.—G. T. Morgan: Ortho-chlorodinitrotoluenes. Part II.—C. K. Ingold: The Conditions Underlying the Formation of Unsaturated and of Cyclic Compounds from Halogenated Open-chain Derivatives. Part I., Products Derived from α-Halogenated Glutaric Acids.—A. Findlay and W. Thomas: Influence of Colloids on the Rate of Reactions involving Gases. I., Decomposition of Hydroxylamine in Presence of Colloidal Platinum.—M. Nierenstein: The Constitution of Catechin. Part III., Synthesis of *aca*Catechin.—K. G. Naik: The Formation and Properties of Dithioketones ($R_2C=S=S$) and Dithioethers ($R_2S=S$). Part I., The Preparation of Certain Dithioketones and Dithioethers.—W. N. Haworth and E. L. Hirst: The Constitution of the Disaccharides. Part V., Cellobiose (Cellose).—S. H. C. Briggs: The Elements Regarded as Compounds of the First Order.—J. D. Morgan and R. V. Wheeler: Phenomena of the Ignition of Gaseous Mixtures by Induction Coil Sparks.—E. J. Williams: Chloroform Solutions of Hydrogen Chloride.—L. J. Hudleston and H. Bassett: Equilibria of Hydrofluosilicic Acid.—E. Newbery: Chlorine Overvoltages.—P. Rây and P. V. Sarkar: Compounds of Hexamethylenetetramine with Complex Metallic Salts and Acids.

Röntgen Society (in Physics Laboratory, University College), at 8.15.—M. A. Codd: Increasing the Efficiency of X-ray Tubes by an Improved Design of Coil and Interrupter.

FRIDAY, January 21.

Royal Society of Arts (Indian Section), at 4.30.—Prof. R. S. Troup: Indian Timbers.

Royal College of Surgeons of England, at 5.—Prof. A. Keith: The Principles of Craniology applied to Clinical and Racial Problems.

Institution of Mechanical Engineers, at 6.—H. J. Smith: The Mechanical Loading of Ships.

Institution of Electrical Engineers (at Faraday House, Southampton Row), at 6.30.—H. J. Howard: Electric Welding.

SATURDAY, January 22.

Physiological Society (at King's College), at 4.

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